Culinary Arts Foundations: Week 7

Day 1: Cooking Techniques (Threshold)

- Objective: "mise en place" prepare ingredients for cooking technique recipe
- No Starter
- Assignment:
  - "Mise en Place"
  - Dry and Moist Cooking Technique Crossword Puzzle.

Students will measure and prep. the ingredients for cooking technique lab. When they have completed the ingredient prep they are to work on the cooking techniques crossword puzzle.

Day 2: Cooking Techniques (Threshold)

- Objective: Demonstrate ability to use assigned cooking technique to prepare a specific product following safety and sanitation guidelines.
- No Starter
- Assignment:
  - Lab: Cooking Techniques

Day 3: Cooking Techniques (Threshold)

- Objective: Evaluate cooking technique food products and determine the cooking method used with each product.
- No Starter
- Assignment:
  - Eat and Evaluate Food Products
  - Cooking Technique Evaluation
  - If Time: Continue work on crossword.

Day 4: Cooking Technique Presentations

- Objective: Determine different dry and moist heat cooking methods and how they are used.
- Starter # 10:
- Assignment:
  - Cooking Technique Presentations/Notes
  - Review Crossword Puzzle
  - Folder Check: Review/Prepare for test.

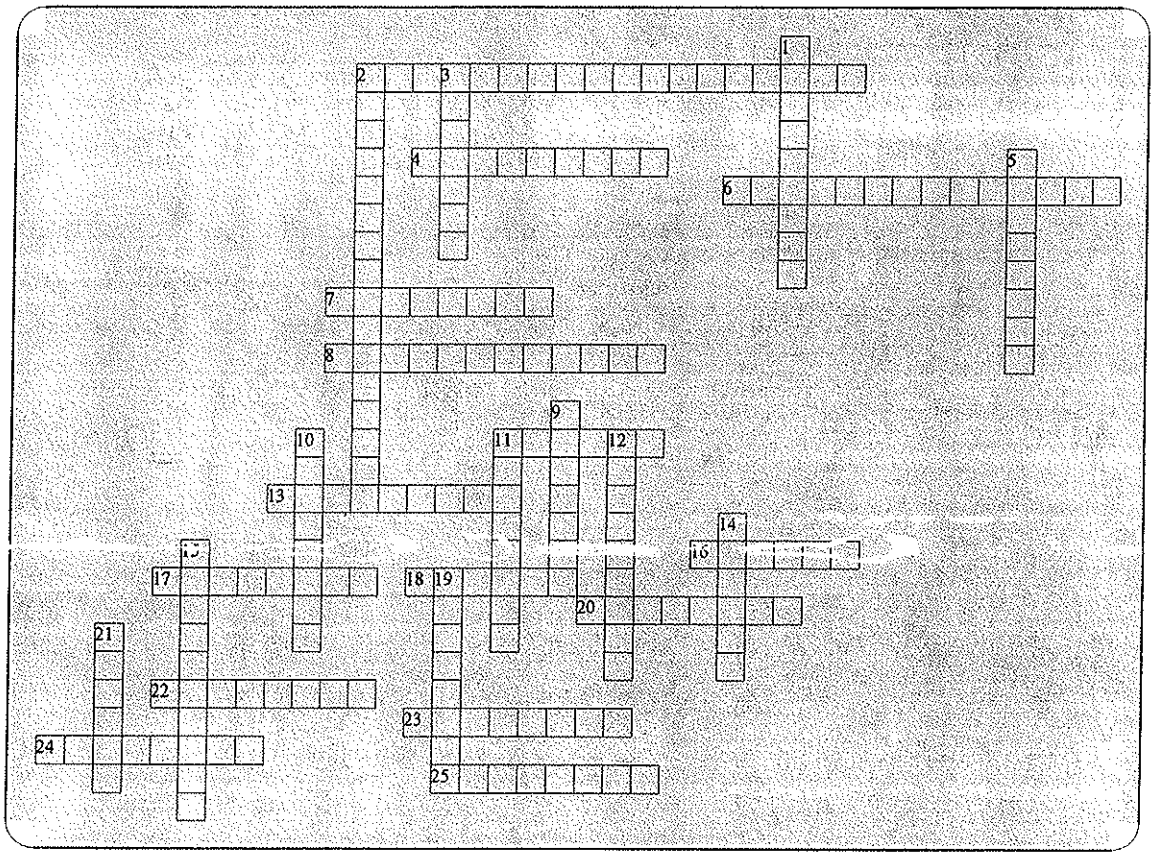
Day 5: Test: Ch. 26 Fruits and Vegetables and Ch.15 Cooking Techniques

- Objective: Evaluate knowledge of cooking techniques and cooking with fruits and vegetables.
- No Starter
- Assignment:
  - Test Ch. 15 and Ch. 26

Extras:
Enzymatic Browning Experiment

Ch. 15 pg. 339-355 Name:_____

Cooking Techniques



Across:

2 - uses both moist and dry heat cooking; start with one technique and then finish with the other

4 - using the boiling method to partially cook food, quick way to change the flavor but keep the color

6 - the process of cooking sugar to high temperatures

7 - means to coat foods with flour or finely ground crumbs before frying

8 - use liquid instead of oil to create the heat energy needed to cook the food

11 - a semiliquid mixture that contains ingredients such as flour, milk, egg and seasonings

13 - when proteins in food are heated they change from a liquid state to a solid state

16 - heating food in a pan with enough fat to about 1/2 to 3/4 of the food

17 - a long slow combination cooking process,

Down:

1 - cooking food in liquid, cooks slowly and steadily from 184-200 F

2 - cooking that takes place after you remove the food from the heat source, happens because the outside of the food is hotter than the inside

3 - moist cooking technique, liquid is brought to the boiling pt. 212 F

5 - one of the best way to preserve nutrients when cooking fruits and vegetables

9 - combination cooking where food is seared and then completely covered with liquid

10 - to cook food directly under a primary heat source

11 - coating made of eggs and crumbs

12 - in dry heat cooking any moisture that comes from the food escapes into the air or...

14 - use dry heat in a closed environment

sear--deglaze--add liquid--place in oven
18 - the outside of the food becomes sealed when it comes in contact with the hot oil, the natural moisture in food turns to steam and cooks the inside
20 - a quick, dry cooking techniques that uses a small amount of fat or oil in a shallow pan
22 - gentler than simmering 150-185 F
23 - the matter in cells and tissue that give fruits and vegetables their color
24 - involves cooking in closed environment with heated liquid, the food never touches the liquid
25 - used for tender foods that cook relatively quickly

15 - use a metal and the radiation of hot air, oil or fat to transfer heat
19 - uses dry heat in a closed environment, food is cooked longer than in baking
21 - quickly browned at the start of the cooking process

Fruits and Vegetables: Cooking Techniques Evaluation

Directions: As you taste the different fruits and vegetables please evaluate the following information and answer the question about your lab performance.

	Taste	Appearance	Texture	Cooking Method
Poached Orange Pears				
Blushing Applesauce				
Grilled Peaches				
Berry Cobbler				
Sautéed Apples				
Oven Roasted Potatoes				
Panfry Onions& Potatoes				
Steamed/Sautéed Carrots				

1.) What was the most important thing you learned from this lab?

2.) Would you have done anything differently for this lab? Why/Why not?

3.) How well did your group work together in completing this lab?

Name_____ Date_____ Period_____

Cooking Technique Notes

Recipe	Cooking Techniques	Dry/ Moist Heat	Other Foods	Explanation of Cooking Technique
Poached Orange Pears				
Blushing Applesauce				
Grilled Peaches				
Berry Cobbler				
Sautéed Apples				
Oven Roasted Potatoes				
Panfry Onions& Potatoes				
Steamed/Sautéed Carrots				

Name_____ Date_____ Period_____

TEST:
Fruits, Vegetables and Cooking Techniques

True/False: Place a T for true and an F for false in the blank to the left of each statement.

_____ **1. Buying fruit that is "in season" raises the cost of menu items.**

_____ **2. Fancy grade products are used when serving fresh fruits.**

_____ **3. When fruits ripen their flavor and aroma intensify.**

_____ **5. Fruits are exposed to high temperature when they are canned and their nutritional content is lost.**

_____ **6. Freezing fruit does not affect the nutritional value, but it does change the texture.**

_____ **7. When using canned vegetables, discard the cooking liquid because it has no nutritional value.**

_____ **8. Starchy vegetables, such as potatoes, should be stored in the refrigerator.**

Matching: Match the term in the left hand column with the correct definition in the right hand column.

_____ **9. Ethylene Gas**	**A. Condiment made of fruit, vinegar, sugar and spices.**
_____ **10. Enzymatic Browning**	**B. Potatoes with a thick skin and starchy flesh.**
_____ **11. Compotes**	**C. Adding water to dries fruits before use.**
_____ **12. Chutney**	**D. Acidic ingredient that helps prevent browning.**
_____ **13. Rehydrate**	**E. Fresh or dried fruits that have been cooked in a sugar syrup.**
_____ **14. Mealy**	**G. An odorless, colorless gas that is emitted naturally as fruit ripen.**
_____ **15. Waxy**	**H. When fruits are exposed to oxygen they discolor.**
_____ **16. Lemon Juice**	**I. Potatoes that have a thin skin and contain less starch.**

Cooking Techniques: For the following cooking techniques, determine whether it uses dry/moist heat and match it to its description from the right hand column.

Cooking Technique	Dry/Moist Heat	Description
_____ 17-18. Poaching	_____	A. Heat in a closed environment. (oven)
_____ 19-20. Roasting	_____	B. Similar to baking; uses longer time and higher temperatures.
_____ 21-22. Simmer	_____	C. Uses a small amount of fat/oil in a shallow pan.
_____ 23-24. Sauté	_____	D. Foods are dredged, placed in an egg wash and bread crumbs.
_____ 25-26. Bake	_____	E. Uses a flat solid metal plate with gas or electric heat.
_____27-28. Boil	_____	F. Gentler method than simmering.
_____29-30. Griddle	_____	G. Cook foods in a closed environment, food does not touch the liquid.
_____ 31-32. Frying	_____	H. Food is cooked at 212° F or higher.
_____33-34. Steaming	_____	I. Food is cooked at a lower temperature than boiling.

Short Answer:

35-36. Define: combination cooking. _____

_____

_____

37.) What do fruits and vegetables get their unique color from? _____

_____

38-39.) List 2 things you should do to properly store fruits and vegetables.

_____

_____

40.) What is a potential problem when receiving fruits and vegetables? _____

_____

Extra Credit:

1.) What are the 8 categories/classifications of fruits?

2.) What makes potatoes turn green and why are they unsafe to eat?

ENZYMATIC BROWNING of FRUIT EXPERIMENT

NAME_____ PERIOD____

OBJECTIVE: To compare the effects of various liquids on the browning of fresh fruit.

BACKGROUND INFORMATION

Oxidation is the process by which a substance chemically reacts with oxygen. This chemical reaction often produces visible results. For example, when iron oxidizes, rust forms. By a similar process, some fruits turn brown when they are cut and exposed to oxygen in the air. This reaction occurs most quickly in fruits that contain the enzyme polyphenoloxidase (PAUL-ee-fee-nahl-OX-ih-dase). For this reason, darkening that occurs in cut fruit is often called *enzymatic browning*.

There are various ways to prevent enzymatic browning. One way is to coat the fruit with a substance that will keep it from turning brown.

In this experiment, you will coat apple slices with water, ascorbic acid, and lemon juice. Untreated slices of apple will serve as a control. You will observe the effect of the liquids on the darkening of the fruit.

As you pare and cut the apple, work quickly but carefully. If you take too long to cut the fruit, it may start to brown. If any of the fruit has started to brown before you dip it into the mixture, cut the brown part off first.

Materials needed: Apple (Red Delicious or MacIntosh), Pear, Banana
Lemon Juice, Ascorbic Acid (Fruit Fresh) Solution
Salt Solution (1/16 tsp. to 1/4 C. Water), 1/4 C. Water
Cream of Tartar solution (1/16 tsp. to 1/4 C. Water)

Directions: 1. Slice fruits into six (6) portions
2. Treat each portion as indicated below. Leave one untreated. This will be the control to use for comparison.
3. Record any color and texture changes near the end of class period.

TREATMENT	OBSERVATION OF: APPLE	PEAR	BANANA
1. Control - Air			
2. Lemon Juice			
3. Ascorbic Acid			
4. Salt Solution			
5 Cream of Tartar			
6. Water			

CONCLUSIONS:

1. Which fruits with which treatments turned brown? Why?

2. Which fruits with which treatments did not turn brown? Why?

3. Which substance was most effective in preventing enzymatic browning?

4. What conclusions can you draw about lemon juice?

5. When would you use this information in food preparation?